

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Carlos A. Silva, Jr. et al.                      Art Unit : 2611  
Serial No. : 09/828,469                                      Examiner : Dominic D. Saltarelli  
Filed : April 9, 2001  
Title : CONTEXTUAL PROGRAMMING

**Mail Stop Appeal Brief - Patents**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

BRIEF ON APPEAL

**(1) Real Party in Interest**

America Online, Inc., the assignee of this application, is the real party in interest

**(2) Related Appeals and Interferences**

There are no related appeals or interferences.

**(3) Status of Claims**

Claims 1-19, 25 and 27-29 are pending in this application, with claims 1 and 28 being independent. All of the pending claims stand rejected. Claims 20-24 and 26 were previously canceled. Appellants appeal the rejections of all of the pending claims.

**(4) Status of Amendments**

An after-final amendment was filed on February 21, 2006. The amendment amended claims 1, 27 and 28 and canceled claims 20-24 and 26. Specifically, claim 1 was amended to incorporate the limitations of canceled claim 26; claim 27 was amended to depend from claim 1; and claim 28 was rewritten in independent form. In the remarks section of the amendment, appellants asserted that the amendments to claims 1, 27 and 28 simply incorporated already existing dependent features into independent claims and, therefore, did not introduce new matter and did not raise any new issues for consideration that would require further search by the Examiner. Accordingly, appellants requested entry of the amendment.

In an advisory action mailed on March 7, 2006, the Examiner checked box 7 (a) of the advisory action form indicating that the after-final amendment would not be entered. Yet, the

Examiner stated in the status of claims portion of the form that only claims 1-19, 25 and 27-29 stand rejected, indicating, by implication, that the Examiner apparently entered the amendment canceling claims 20-24 and 26. In light of this and since the Examiner did not provide any specific reasons in the advisory action as to why the amendment would not be entered, appellants assume that the after-final amendment filed on February 21, 2006 was properly entered. A notice of appeal was also filed on February 21, 2006.

### **(5) Summary of Claimed Subject Matter**

The claimed subject matter is directed to providing electronic content that is related to television programming. The following summarizes each independent claim with reference to the application specification and the drawings.

Independent claim 1 is directed to a method of providing content relevant to television programming. The television programming being viewed by a viewer at a particular time is determined. See step 402 of Fig. 4; page 11, lines 21-29. In one example, the television programming being viewed is determined by detecting the channel to which a set-top box is tuned. Available context information, such as, for example, contextual chat rooms or electronic pages, associated with the television programming available for delivery to the viewer is determined. See step 404 of Fig. 4; page 12, line 4 to page 14, line 7. An intelligent selection of selected context information from among the available context information is made. See step 406 of Fig. 4; page 14, lines 7 and 8. The intelligent selection may include selecting the selected context information based upon a hierarchy of the available context information. See page 14, line 9. The hierarchy of the available context information includes ranked categories of context information associated with a television program being viewed by the viewer, such as, for example, a hierarchy that ranks episode-specific context information above show-specific context information which is, in turn, ranked above broadcaster-specific context information. See steps 406a-406c of Fig. 4; page 14, lines 9-21. The selected context information is delivered to the viewer by, for example, displaying the selected context information to the viewer. See step 408 of Fig. 4; page 15, lines 3-6.

Independent claim 28 is also directed to a method of providing content relevant to television programming. Claim 28 includes the same features as claim 1 except that the

hierarchy of available context information includes ranked categories of context information associated with the viewer, such as, for example, the viewer's geographic location, the viewer's local time, the viewer's gender, the viewer's age, and the viewer's interests. See page 14, line 29 to page 15, line 1.

**(6) Grounds of Rejection**

(a) Independent claims 1 and 28, along with their dependent claims 2, 4, 5, 7, 10, 11, 13, 17-19, 25, 27 and 29, have been rejected as being unpatentable over Yen (U.S. Patent No. 5,991,799) in view of Bournas (U.S. Patent No. 6,061,679).

(b) Dependent claims 3, 8, 9, 12 and 15, which depend from independent claim 1, have been rejected as being obvious over Yen in view of Bournas and further in view of Matthews (U.S. Patent No. 5,654,748).

(c) Dependent claims 6 and 14, which depend from claim 1, have been rejected as being obvious over Yen in view of Bournas and further in view of Feinleib (U.S. Patent No. 6,637,032).

(d) Dependent claim 16, which depends from claim 1, has been rejected as being obvious over Yen in view of Bournas, Feinleib, and Matthews.

**(7) Argument**

**(a) Independent claims 1 and 28, along with their dependent claims 2, 4, 5, 7, 10, 11, 13, 17-19, 25, 27 and 29, are not obvious over Yen and Bournas**

Appellants submit the following arguments in support of reversal of the rejection of the above-listed claims as being obvious over Yen and Bournas.

**1. Independent claim 1 and its dependent claims 2, 4, 5, 7, 10, 11, 13, 17-19, 25 and 27 are Not Obvious Over Yen and Bournas**

Independent claim 1 recites a method of providing content relevant to television programming that includes determining television programming being viewed by a viewer and determining available context information associated with the television programming available for delivery to the viewer. Claim 1 further recites "making an intelligent selection of selected context information from among the available context information, wherein making an

intelligent selection comprises selecting the selected context information based upon *a hierarchy* of the available context information ... wherein *the hierarchy* of the available context information *comprises ranked categories of context information associated with a television program being viewed by the viewer*" (emphasis added). As described in dependent claim 27, the ranked categories may include, for example, the episode of the television program, the name of the television program, and the broadcaster of the television program.

Accordingly, the "hierarchy" of claim 1 is a content-based hierarchy in that it is a hierarchy that includes ranked categories that group data records or information according to a labeling or characterization of the content of the data records or information. For example, in one implementation, the hierarchy may be structured such that a data record that includes information relating to the plot of episode 506 of Star Trek is placed in a "Star Trek – Episode 506" category (i.e., an episode-specific category), a data record that includes general information about Captain Kirk is placed in a "Star Trek" category (i.e., a program-specific category), and a data record that includes the Fall Season TV line-up on NBC (i.e., a broadcaster specific category) is placed in an "NBC" category. Each of these categories characterizes the contents stored in the data records placed in that category – that is, data records storing information related specifically to episode 506 of Star Trek are placed in the "Star Trek – Episode 506" category, data records storing information related more generally to Star Trek rather than to a specific Star Trek episode are placed in the "Star Trek" category, and data records storing information related more generally to NBC rather than to a specific program are placed in the "NBC" category. These categories are ranked to enable intelligent selection of data records relevant to a television program being viewed. For example, if it is determined that the viewer is watching Star Trek, Episode 506 on NBC, content relevant to Star Trek, Episode 506 on NBC may be determined by, for example, first attempting to access data records in the most granular category – the "Star Trek-Episode 506" category. If no data records are found, an attempt is made to access data records in the next category – the "Star Trek" category. If still no data records are found, a final attempt is made to access data records in the final and coarsest category – the "NBC" category.

Thus, as is clear from the above examples, the "hierarchy" of claim 1 is a content-based hierarchy. Appellants request reversal of the rejection of claim 1, and its dependent claims,

because neither Yen, Bournas, nor any proper combination of the two describes or suggests the recited intelligent selection of context information available for delivery to a viewer based on a content-based hierarchy that includes ranked categories of context information associated with a television program being viewed by the viewer.

The advisory action of February 6, 2006 contends that Yen discloses intelligent selection of context information associated with a television program currently being viewed by the user<sup>1</sup>. The Examiner, however, acknowledges that Yen does not describe or suggest that intelligent selection of the context information is based on a hierarchy, wherein the hierarchy includes ranked categories of context information.

The Examiner refers to Bournas as disclosing the “hierarchy” feature, when applied to Yen’s system. Bournas discloses a search method and a data structure that enable an entity or user to locate a data record (“target record”) by specifying a key or address associated with the data record. See Bournas, e.g., at abstract; col. 5, lines 10-13; col. 12, line 43 to col. 14, line 10. A key (or address) is defined as a number of symbols that have a simple logical relation between them such that every key may be described as either bigger or smaller than every other key. For example, the key or address 192.131.000.000 is larger than the key or address 192.100.100.100. See Bournas, e.g., at col. 5, lines 13-16. Bournas discloses a key-based data structure that enables an efficient search of data records by organizing the data records into groups in a tree structure according to the value of their keys through use of key masks. See Bournas, e.g., col. 12, line 43

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<sup>1</sup> It is worth noting that the advisory action of February 6, 2006 also stated that “one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references.” While appellants agree in principal, appellants point out that it is necessary to address the shortcomings of each reference individually when the same feature is missing from each reference. Doing so is useful in demonstrating that the constituent parts fail to teach the feature, and thus, suggests the absence of the feature in the proposed combination. Moreover, it is akin to demonstrating a lack of prima facie evidence to support the rejection, inasmuch as some teaching of each and every feature must be present within the combination. In this case, both Yen and Bournas, either alone or in combination, fail to disclose the recited intelligent selection of context information based on a content-based hierarchy – specifically, a “hierarchy that includes ranked categories of context information associated with a television program being viewed by the viewer.”

to col. 14, line 10. The groups of data records are ranked in the data structure according to key mask ranges. See Bournas, e.g., at col. 5, lines 26 to col. 6, line 7; col. 12, lines 4-41.

Notably, the hierarchy described by Bournas is not a content-based hierarchy, as recited in claim 1, that groups data records according to a characterization of the content stored in the data records, rather it is a key-based hierarchy that groups data records by keys or addresses associated with each of the data records, irrespective of the content stored in the data records. In particular, Bournas describes that the stored contents of the data records, but not the data structure (and its associated hierarchy) and search method, may change based on application. See Bournas, e.g., at col. 6, lines 44-47. For example, Bournas describes that the same search algorithm and data structure may be used for a routing application, in which case the data records contain information needed for routing (e.g., a gateway address and an agent program). See Bournas, e.g., at col. 4, lines 45-54; col. 6, lines 44-47. Bournas also describes that the same search algorithm and data structure may be used in a telnet application to gather login information, in which case the data records contain information needed when logging onto a particular computer. See Bournas, e.g., at col. 4, lines 55-56; col. 6, lines 44-47. Bournas also states that the search algorithm and data structure may be "used in various other situations that can take advantage of a searchable data structure that is ordered." See Bournas at col. 4, lines 59 and 60. Notably, Bournas's statement that the data structure may be used in "other situations" does not suggest that if Bournas's data structure were used in another application, the key-based hierarchy would no longer be used. Rather, such a statement simply indicates that the data stored in the data records to which the key-based data structure (and its associated hierarchy) and search method would be applied when used for another application may be data other than routing data or login data.

Accordingly, contrary to the Examiner's assertion, the combination of Yen and Bournas would not result in a content-based hierarchy having the claimed "ranked categories of context information associated with a television program being viewed by the viewer." Rather, Bournas's hierarchy, when applied to Yen, would remain a key-based hierarchy having ranked categories of keys/addresses usable by Bournas's search algorithm to locate one of Yen's data records (storing TV program-related data) by specifying a key or address of the desired data record.

In the advisory action mailed on March 7, 2006, the Examiner responded to appellants arguments by stating:

“Applicant’s arguments focus on the nature of the specific manner by which data is labeled and characterized in the examples provided by Bournas, namely, Bournas uses numerically based data structures for searching, such as IP addresses. However, it is clear to one of ordinary skill in the art that Bournas is also more broadly teaching the advantage of a tree-based searching structure and method, see col. 5, lines 1-5 and col. 7, lines 29-37. Bournas is evidence that hierarchical searching methods are well known and allow for the quick location of desired objects.”

See advisory action of March 7, 2006, page 2. Appellants disagree with the Examiner’s extremely broad characterization of Bournas’ teachings. Bournas does not teach the general proposition that a tree-based searching structure is well known and allows for the quick location of desired objects. Rather, Bournas teaches that a tree-based searching structure that uses “keys” or addresses to quickly locate data records (“target records”) associated with the keys or addresses is known. Bournas’s data structure and search algorithm use the keys to group data records in a ranked hierarchy and to search for particular data records using the ranked hierarchy by specifying a key or address of the desired data record. As stated above, the contents of the data records may vary based on application (e.g., if used in a routing application, the data records store routing information such as a Gateway address and an agent program, and if used in a Telnet application, the data records store login information), but, importantly, the use of the keys themselves, the ranking of the data records based on the keys, and the search algorithm itself do not vary based on application.

The Examiner, however, completely disregards the key-based hierarchy taught by Bournas, which groups or ranks data records based on the keys or addresses of the data records rather than based on the content of the data records, and instead somehow transforms the key-based hierarchy into a content-based hierarchy that groups or ranks data records that store context information associated with a TV program into ranked categories that categorize the data records based on a characterization of the content of the TV context information stored in the data records (e.g., if the data records store data related to a basketball game, the data records are grouped in a “sports” category while if the data records store data related to local news, the data records are grouped in a “news” category). The Examiner dismisses this distinction between

key-based and content-based hierarchies as simply “the specific manner by which the data is labeled or categorized in the examples provided by Bournas.” However, Bournas’s use of keys enables traversal of the data structure using key-masks, a central aspect of Bournas’s teachings as clearly reflected in the very title of the Bournas patent: “Creating and Searching a Data Structure Ordered by Ranges of Key Masks Associated with the Data Structure” (emphasis added). It is, in fact, this “labeling or categorization” that results in the search efficiency gains touted by Bournas. See col. 1, lines 58-65. Thus, the Examiner’s dismissal of the key-based structure of Bournas’s hierarchy dismisses the very aspect of Bournas’s system that Bournas teaches as providing the efficiency gains so touted by the Examiner as leading one of ordinary skill in the art to apply Bournas’s data structure and search algorithm to Yen’s system.

Accordingly, for at least the above reasons, neither Bournas nor Yen describes or suggests a content-based hierarchy having “ranked categories of context information associated with a television program viewed by the viewer.” The Examiner’s statements notwithstanding, Bournas does not remedy the deficiency of Yen to describe or suggest this feature.

For at least the above reasons, claim 1, and its dependent claims 2, 4, 5, 7, 10, 11, 13, 17-19 and 25, are patentable over Yen, Bournas, and any combination thereof.

**2. Independent claim 28 and its dependent claim 29 are Not Obvious Over Yen and Bournas**

Independent claim 28 recites a method of providing content relevant to television programming that includes determining television programming being viewed by a viewer and determining available context information associated with the television programming available for delivery to the viewer. Claim 28 further recites “making an intelligent selection of selected context information from among the available context information, wherein making an intelligent selection comprises selecting the selected context information based upon *a hierarchy* of the available context information ... wherein *the hierarchy* of the available context information *comprises ranked categories of context information associated with the viewer*” (emphasis added). Appellants request reversal of the rejection of claim 28, and its dependent claim 29, because neither Yen, Bournas, nor any proper combination of the two describes or suggests the recited intelligent selection of context information available for delivery to a viewer



based on a hierarchy that includes ranked categories of context information associated with a viewer of a television program.

As described previously with respect to claim 1, Yen fails to describe or suggest the selection of context information based on a hierarchy, much less based on a hierarchy that includes ranked categories of context information associated with a viewer of a television program. Moreover, the hierarchy described by Bournas also does not include “*ranked categories of context information associated with the viewer,*” as claimed. Rather, Bournas’s hierarchy is a key-based hierarchy that includes ranked categories defined by ranges of specifically formatted keys or addresses associated with data records.

For at least this reason, appellants request reversal of the rejection of claim 28 and its dependent claim 29.

**(b) Dependent claims 3, 8, 9, 12 and 15, which depend from independent claim 1, are not obvious over Yen, Bournas, and Matthews, alone or in combination**

Matthews does not remedy the deficiencies of Yen and Bournas discussed above with respect to claim 1. In particular, Matthews does not describe or suggest, nor is it relied upon to teach, at least the claimed “making an intelligent selection [by] selecting the selected context information based upon a hierarchy of the available context information... wherein *the hierarchy of the available context information comprises ranked categories of context information associated with a television program being viewed by the viewer*” (emphasis added) Rather, Matthews relates to a system for providing an electronic programming guide that includes TV schedules and information about a TV program being viewed. For at least the above reasons, claims 3, 8, 9, 12 and 15 are patentable over Yen, Bournas, Matthews, or any combination thereof.

**(c) Dependent claims 6 and 14, which depend from claim 1, are not obvious over Yen, Bournas, and Matthews, alone or in combination**

Feinleib does not remedy the deficiencies of Yen and Bournas discussed above with respect to claim 1. In particular, Feinleib does not describe or suggest, nor is it relied upon to teach, at least the claimed “making an intelligent selection [by] selecting the selected context information based upon a hierarchy of the available context information ... wherein *the hierarchy* of the available context information *comprises ranked categories of context information associated with a television program being viewed by the viewer*” (emphasis added). Rather, Feinleib relates to a system for synchronizing supplemental content with a television program by using unique data character string in the closed captioning of the television program. For at least these reasons, claims 6 and 14 are patentable over Yen, Bournas, Feinleib, or any combination thereof.

**(d) Dependent claim 16, which depends from claim 1, has been rejected as being obvious over Yen in view of Bournas, Feinleib, and Matthews.**

Claim 16 incorporates all of the features of claim 1 through its dependency from claim 1. Therefore, for at least the reasons described above, Feinleib, Matthews, Yen and Bournas do not describe or suggest at least the claimed “making an intelligent selection [by] selecting the selected context information based upon a hierarchy of the available context information ... wherein *the hierarchy* of the available context information *comprises ranked categories of context information associated with a television program being viewed by the viewer*” (emphasis added). Accordingly, appellants request reversal of the rejection of claim 16.

The fee in the amount of \$950 in payment for the Appeal Brief fee (\$500) and the Petition for Two-Months Extension of Time fee (\$450) is being paid concurrently herewith on the Electronic Filing System (EFS) by way of Deposit Account authorization. Please apply any other charges or credits to Deposit Account No. 06-1050.

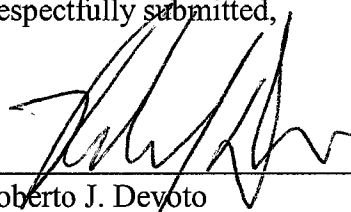
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Date: \_\_\_\_\_

6/11/06

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### **Appendix of Claims**

1. (Previously Presented) A method of providing content relevant to television programming, the method comprising:
  - determining television programming being viewed by a viewer at a particular time;
  - determining available context information associated with the television programming available for delivery to the viewer;
  - making an intelligent selection of selected context information from among the available context information, wherein making an intelligent selection comprises selecting the selected context information based upon a hierarchy of the available context information; and
  - delivering the selected context information to the viewer,wherein the hierarchy of the available context information comprises ranked categories of context information associated with a television program being viewed by the viewer.
2. (Previously Presented) The method of claim 1 wherein determining television programming being viewed comprises determining the television programming tuned to by a set-top box.
3. (Previously Presented) The method of claim 1 wherein determining television programming being viewed comprises determining the television programming based upon an EPG.
4. (Previously Presented) The method of claim 1 wherein determining context information associated with the television programming comprises determining context information based upon a television signal received by a set-top box.
5. (Previously Presented) The method of claim 1 wherein determining context information associated with the television programming comprises determining context information based upon a channel identification number.

6. (Previously Presented) The method of claim 1 wherein determining context information associated with the television programming comprises determining context information based upon a broadcaster identifier.

7. (Previously Presented) The method of claim 1 wherein determining context information associated with the television programming comprises determining context information based upon a television show.

8. (Previously Presented) The method of claim 1 wherein determining context information associated with the television programming comprises determining context information based upon an episode of a television show.

9. (Previously Presented) The method of claim 1 wherein determining context information associated with the television programming comprises determining context information based upon an EPG identifier.

10. (Previously Presented) The method of claim 1 wherein determining context information associated with the television programming comprises determining context information based upon a program content category.

11. (Previously Presented). The method of claim 1 wherein the hierarchy is predetermined.

12. (Previously Presented) The method of claim 11 wherein the hierarchy is determined by an episode of a television program.

13. (Previously Presented) The method of claim 11 wherein the hierarchy is determined by a television program.

14. (Previously Presented) The method of claim 11 wherein the hierarchy is determined by a broadcaster identifier.

15. (Previously Presented) The method of claim 11 wherein the hierarchy is determined by an EPG identifier.

16. (Previously Presented) The method of claim 11 wherein selecting the selected context information based upon the hierarchy comprises:

first selecting context information from among the available context information based upon an episode of a television program;

where no available context information based upon an episode is found, selecting context information from among the available context information based upon a television program;

where no available context information based upon a television program is found, selecting context information from among the available context information based upon a broadcaster identifier; and

where no available context information based upon a broadcaster identifier is found, selecting context information from among the available context information based upon a content category.

17. (Previously Presented) The method of claim 1 wherein the hierarchy is viewer selected.

18. (Previously Presented) The method of claim 1 wherein the hierarchy is dynamically determined.

19. (Previously Presented) The method of claim 1 wherein delivering the selected context information to the viewer comprises displaying the context information by a set-top box.

20-24. (Canceled)

25. (Previously Presented) The method of claim 1 wherein the available context information comprises one or more of the following information items associated with the television programming being viewed by the user: question boxes, electronic ballots, poll results, chat rooms, information for ordering merchandise, links to a broadcaster's web page, websites of business partners of the broadcaster, links to related category content, and web pages.

26. (Canceled)

27. (Previously Presented) The method of claim 1 wherein the ranked categories comprise one or more of an episode of the television program, a name of the television program, and a broadcaster of the television program.

28. (Previously Presented) A method of providing content relevant to television programming, the method comprising:

determining television programming being viewed by a viewer at a particular time;

determining available context information associated with the television programming available for delivery to the viewer;

making an intelligent selection of selected context information from among the available context information, wherein making the intelligent selection comprises selecting the selected context information based upon a hierarchy of the available context information; and

delivering the selected context information to the viewer,

wherein the hierarchy of available context information comprises ranked categories of context information associated with the viewer.

29. (Previously Presented) The method of claim 28 wherein the ranked categories comprise one or more of the viewer's geographic location, the viewer's local time, the viewer's gender, the viewer's age, and the viewer's interests.

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### **Evidence Appendix**

None



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### **Related Proceedings Appendix**

None